

ABSTRACT OF THE DISCLOSURE

A method for forming a single-crystal silicon layer on a transparent substrate. A transparent substrate having an amorphous silicon layer formed thereon and a silicon wafer having a hydrogen ion layer formed therein are provided. The silicon wafer is then reversed and laminated onto the amorphous silicon layer so that a layer of single-crystal silicon is between the hydrogen ion layer and the amorphous silicon layer. The laminated silicon wafer and the amorphous silicon layer are then subjected to laser or infrared light to cause chemical bonding of the single-crystal silicon layer and the amorphous silicon layer and inducing a hydro-cracking reaction thereby separating the silicon wafer and the transparent substrate at the hydrogen ion layer, and leaving the single-crystal silicon layer on the transparent substrate.